

**IN THE UNITED STATES DISTRICT COURT
FOR THE SOUTHERN DISTRICT OF NEW YORK**

GLOBALFOUNDRIES U.S. INC.,)
)
 Plaintiff,)
)
 v.)
)
 INTERNATIONAL BUSINESS)
 MACHINES CORPORATION,)
)
 Defendant.)

Case No. 23-cv-03348-JHR

JURY TRIAL DEMANDED

PLAINTIFF GLOBALFOUNDRIES U.S. INC.’S COMPLAINT

Plaintiff GLOBALFOUNDRIES U.S. INC. (“GF” or “Plaintiff”) alleges against Defendant INTERNATIONAL BUSINESS MACHINES CORPORATION (“IBM” or “Defendant”) as follows:

INTRODUCTION

1. IBM is misappropriating GlobalFoundries’ trade secrets.
2. In 2015, IBM exited semiconductor manufacturing, divesting its money-losing microelectronics division to GF, IBM’s long time joint development partner, and granting GF exclusive control over decades of confidential, proprietary, and trade secret semiconductor manufacturing technology. These trade secrets and proprietary technologies were principally developed in Albany, New York, and go to the heart of next-generation semiconductor chips. GF invested hundreds of millions of dollars jointly developing this technology with IBM.
3. Before the GF deal, IBM’s semiconductor-manufacturing business was losing half a billion dollars annually with even more staggering losses expected. At the time, IBM was focused on software and IT services and had deprioritized semiconductor manufacturing, with its CEO calling semiconductor manufacturing “empty calories” that IBM was only too happy to

shed.¹ To do so, it not only paid GF \$1.5 billion, it granted GF control of the highly valuable trade secrets the companies had developed as well as those expected from their continuing research collaboration.

4. IBM's misappropriation of GF IP exists not in a vacuum but as part of a pattern and practice in aid of IBM's long-time, highly-lucrative, intellectual property (IP) licensing activity. For decades, IBM was one of the largest and famously prolific hawkers of semiconductor manufacturing IP. IBM generated in excess of \$10 billion from 1996-2014 from IP licensing alone, with semiconductor manufacturing IP licensing representing a significant portion.

5. In its relentless drive to exploit licensing opportunities, IBM decided over critics' objections to give China advanced technology in exchange for access to China's market. More specifically, IBM provided Chinese companies with blueprints for microprocessors, high-end servers, and server software. When critics assailed IBM for enabling China's technology ambitions and abetting China's demands for advanced technology transfer in exchange for access to Chinese markets, IBM all but admitted its complicity, stating that "[f]oreign firms need to collaborate with Chinese companies to grow new industries" and that giving advanced American technology to Chinese companies "will create a new and vibrant ecosystem of Chinese companies producing homegrown computer systems for the local and international markets."² IBM's efforts to enable foreign technology capability have continued, as evidenced by IBM's opposition to reforms of the Committee on Foreign Investment in the United States (CFIUS) directed to strengthening protection against U.S. technology leakage by preventing certain U.S. technology

¹ <https://www.wsj.com/articles/behind-ginni-romettys-plan-to-reboot-ibm-1429577076> (last visited April 17, 2023).

² <https://www.nytimes.com/2015/04/20/business/ibm-project-in-china-raises-us-concerns.html> (last visited April 17, 2023).

licensing to foreign entities. These reforms were based, in part, on concerns surrounding intellectual property theft, including U.S. high-tech know-how.³

6. Blinded by its insatiable licensing ambitions, IBM has not only disregarded U.S. interests, it has trampled GF's rights. It appears that IBM could not walk away from any part of its golden goose of licensing and trading in IP despite having granted GF the exclusive right to license and disclose decades of confidential, proprietary, and trade secret semiconductor manufacturing technology. On information and belief, IBM is now misappropriating GF IP and selling it to GF's competitors both here in the U.S. and overseas.

7. IBM's first customer (of which GF is aware) for the unlawful licensing, disclosure, and misuse of GF IP appears to be Intel. On March 23, 2021, IBM announced a research collaboration with Intel for next generation semiconductor technologies. IBM's press release states that "IBM brings to this partnership decades of 'hard tech' semiconductor innovation that have shaped the industry" including "debuting the world's first 7 nanometer" test chips and "the industry's first advanced 'nanosheet' device structure and electronics packaging technologies." IBM touted that Intel would be able to "leverage" this research, along with decades of additional research developed in the "semiconductor research ecosystem in Albany, NY."⁴ IBM had no right to do provide GF trade secrets to Intel. GF owns the exclusive right to disclose and license the decades of jointly developed GF/IBM semiconductor innovation developed in Albany, NY.

8. IBM's next customer (of which GF is aware) for the unlawful licensing, disclosure, and misuse of GF IP appears to be the Japanese company, Rapidus Corporation ("Rapidus"), a

³ <https://www.reuters.com/article/us-usa-china-ibm-idUKKBN1DE2PH> (last visited April 17, 2023).

⁴ <https://newsroom.ibm.com/Intel-Teams-with-IBM-for-Advanced-Semiconductor-Research-and-Development> (last visited April 17, 2023).

new entrant in the advanced semiconductor manufacturing space formed by a consortium of companies including Toyota, Sony, Softbank, Denso, Kioxia, MUFG Bank, NEC, and NTT. In December 2022, IBM announced a partnership with Rapidus, stating that IBM will allow Rapidus to “leverage” advanced semiconductor technology developed in Albany and that IBM intends to provide Rapidus with “decades of expertise in semiconductor research and design,” including technology underlying the “2 nm node chip.” IBM claims that this three-year deal has already resulted in income of approximately \$100 million in 2022 alone.⁵

9. But IBM’s appetite for GF IP seems insatiable. Having entered into partnerships with Intel and Rapidus (and possibly others), IBM seems determined to continue to misappropriate GF’s trade secrets.

10. In recent months, flush with cash from at least its Rapidus relationship, IBM has commenced a systemic poaching of GF’s most qualified semiconductor manufacturing engineers in order to generate even more licensing revenue by enabling other companies with GF IP.

11. And GF is concerned that IBM’s misappropriation of its trade secrets may extend beyond the Intel and Rapidus deals publicized by IBM. GF is likewise concerned that IBM may be in the process of applying for U.S. CHIPS funding, a limited pool of U.S. taxpayer money, to support its unlawful activities while simultaneously working behind the scenes to advocate against U.S. licensing and disclosure restrictions that would protect U.S.-developed technology, including opposing U.S. regulations designed to prevent intellectual property theft (as it did years earlier when it opposed CFIUS reform).

⁵ https://www.ibm.com/annualreport/assets/downloads/IBM_Annual_Report_2022.pdf at 23 (last visited April 17, 2023).

12. IBM's illegal licensing and disclosure of the GF-Controlled Trade Secrets must be stopped.

PARTIES

13. Plaintiff GlobalFoundries U.S. Inc. is a Delaware corporation with its principal place of business at 400 Stonebreak Road Extension, Malta NY 12020.

14. On information and belief, Defendant IBM is a New York corporation with its principal place of business at 1 New Orchard Road, Armonk, New York 10504.

JURISDICTION AND VENUE

15. This is a civil action seeking redress for violations of GF's trade secret rights under the federal Defend Trade Secrets Act, contractual rights, and New York state common law.

16. This Court has original jurisdiction over this action pursuant to the First Cause of Action under the Defend Trade Secrets Act, 18 U.S.C. § 1836 and 28 U.S.C. § 1331.

17. This Court has supplemental jurisdiction over the Second Cause of Action herein pursuant to 28 U.S.C. § 1367 because it forms part of the same case or controversy as the First Cause of Action herein.

18. This Court has personal jurisdiction over IBM, and venue is proper in this Court pursuant to 28 U.S.C. § 1391(b), for at least the reason that IBM consented to the jurisdiction and venue of this Court pursuant to Section 13.2 of the Albany Cooperation Agreement between IBM and GF dated July 1, 2015 (the "ACA"). In addition, IBM is a citizen of New York and resident in this District and a substantial portion of the events giving rise to this action occurred in this District.

FACTUAL ALLEGATIONS

Background

19. GF's history of working with IBM to develop tomorrow's microchips is long. The partnership began in 2002, when GF was part of Advanced Micro Devices, Inc. ("AMD") and involved cutting edge research and development of semiconductor manufacturing technologies to enable, among other things, the production of smaller and smaller transistors, the building blocks of a microchip. The joint research referred to in the companies' research agreements as "Specific Results" and "Jointly Owned Albany Foreground IP" (collectively, "GF IP" or "GF-Controlled Trade Secrets"), included highly proprietary and secret work at the SUNY College of Nanoscale Science and Engineering research facility (aka the Albany Nanotech Complex) in Albany, NY on next generation transistor designs known as FinFET, nanowire, nanosheet, and Vertical FET (VTFET) transistors. These types of transistors were, at the time, believed to be the only way for manufacturers to achieve the infinitesimally small transistor sizes necessary to make next-generation microchips.

20. That belief has turned out to be true. Today's most advanced microchips, referred to generally by how many nanometers (a billionth of a meter) apart certain transistor structures are, are made using the types of transistors that GF, IBM, and other partners developed in secret in Albany beginning in 2007. This joint development work resulted in landmark achievements and breakthroughs in technology, including the world's first prototype chip using a "7nm"⁶

⁶ Traditionally, a transistor size referred to the half pitch of contacted metal wires. However, recent advances in transistor sizes, such as the 10nm, 7nm, 5nm, 2nm and smaller sizes, refer to a specific generation (aka "node") of chips made using a particular type of semiconductor manufacturing process, the designation of which may not correlate exactly to transistor size. In general, a smaller technology node produces smaller transistors, more of which can be packed onto a chip to make it faster and more energy efficient.

transistor in 2015, based on Extreme Ultraviolet (EUV) lithography and silicon germanium transistor channel material.

21. While IBM and GF's partnership and research in advanced semiconductor manufacturing techniques were successful, IBM's chip making Microelectronics Business was not. It was losing half a billion dollars every year.⁷ And it is no wonder that it was: IBM was focused on software and IT consulting services and had deprioritized semiconductor manufacturing. It had failed to invest the necessary capital in semiconductor manufacturing equipment and semiconductor fabrication plants ("fabs"). IBM's fabs were outdated and too small to achieve necessary economies of scale, and the cost of technology development and manufacturing was exponentially increasing. IBM needed a way out, and GF gave it the opportunity to unload its significant liabilities in semiconductor development and manufacturing.

22. In 2014, GF agreed to acquire IBM's chip-manufacturing division and two fabs, and hire thousands of IBM employees in the division, thereby relieving IBM of losses that were half a billion dollars annually. In exchange for relieving IBM of its liabilities, IBM paid GF \$1.5 billion dollars, gave GF an exclusive contract to supply IBM's needs for certain advanced technology nodes, and, importantly, granted GF exclusive control over the licensing and disclosure of the advanced semiconductor manufacturing trade secrets that had been, and would be, developed in the research programs between GF and IBM in Albany. Granting GF exclusive control of this IP made sense. IBM was shifting from making chips, where it had incentives aligned with GF to not disclose or license semiconductor manufacturing technology to other competing chip makers, to buying chips, where IBM would be incentivized to disseminate the

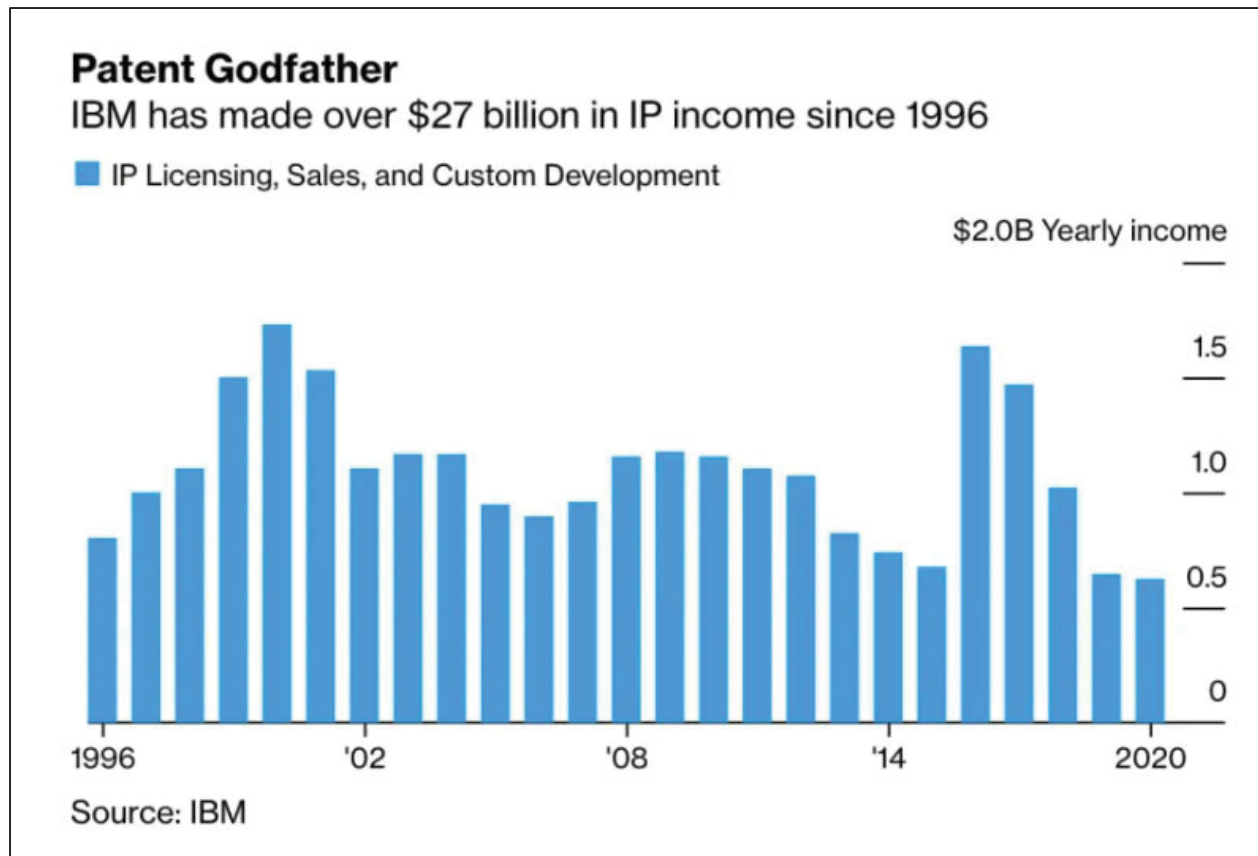
⁷ <https://www.ibm.com/investor/att/pdf/3q14-Earnings-press-release.pdf> (last visited April 17, 2023).

semiconductor manufacturing technology to enable as many potential competitor suppliers as possible, thereby harming GF. GF, on the other hand, was doubling-down on U.S.-based semiconductor manufacturing through its acquisition of the IBM fabs and associated workforce and needed to know that it would never be forced to unwittingly compete against the technologies that it had been a part of developing.

23. Thereafter, GF and IBM continued their joint research in cutting edge semiconductor manufacturing techniques until 2018. GF never relinquished its exclusive control over the licensing and disclosure of the trade secret information resulting from the substantial and time-intensive research by GF and IBM. Indeed, that research remains incredibly valuable, including to other chip-makers that want to commercialize chips using smaller transistors and compete with GF in the market.

IBM's Decline In Licensing Revenue

24. When GF acquired IBM's chip-manufacturing division in 2014, and IBM transferred to GF the exclusive right to disclose or license GF IP to others, IBM's licensing income had been declining for several years.



<https://ipcloseup.com/2021/05/04/ibms-drop-in-direct-ip-licensing-revenue-may-be-a-reflection-of-secular-changes-in-tech-law/> (last visited April 17, 2023).

25. In 2015, IBM provided Chinese companies with blueprints for higher-end servers and the software that runs on them, helping create a Chinese tech industry that in the long run would no longer need to buy American products, thus avoiding security concerns. IBM’s Chief Executive defended these actions, claiming that “Foreign firms need to collaborate with Chinese companies to grow new industries” and that opening IBM’s chip technology to Chinese partners “will create a new and vibrant ecosystem of Chinese companies producing homegrown computer systems for the local and international markets.”⁸ IBM’s critics claimed that IBM was caving to

⁸ <https://www.nytimes.com/2015/04/20/business/ibm-project-in-china-raises-us-concerns.html> (last visited April 17, 2023).

Chinese demands, placing short-term business gains ahead of longer-term political and trade concerns.⁹

26. IBM continues to advocate against U.S. licensing and disclosure restrictions that would protect U.S.-developed technology, including by opposing U.S. regulations designed to prevent intellectual property theft. For example, U.S. lawmakers were considering a new bill in 2017 that would expand the role of the Committee on Foreign Investment in the United States (CFIUS) in view of U.S. concerns about intellectual property theft, including U.S. high-tech know-how.¹⁰ IBM *repeatedly* opposed that new bill, urging lawmakers to reject it because it would limit IBM's ability "to do business abroad."¹¹ Lawmakers recognized, however, that "[t]he business model[] for IBM . . . ha[s] led to the transfer of military applicable technologies to China that have likely aided the modernization of the Chinese military and intelligence agencies."¹²

27. As shown in the chart above, IBM's annual licensing revenue increased substantially to nearly \$1.6 billion in 2016. Then, like the years leading up to 2014, it began to slump. By 2020, IBM's annual licensing revenue had dropped by more than 60% from its peak in 2016.

28. To overcome this decline, IBM President Jim Whitehurst stated that IBM was "exploring alternate ways of capitalizing on its intellectual property."¹³ On information and belief,

⁹ *Id.*

¹⁰ <https://www.reuters.com/article/us-usa-china-ibm-idUKKBN1DE2PH> (last visited April 17, 2023).

¹¹ *Id.*; <https://www.wsj.com/articles/u-s-companies-brace-for-wider-scrutiny-of-chinese-deals-1517230800> (last visited April 17, 2023).

¹² <https://www.wsj.com/articles/u-s-companies-brace-for-wider-scrutiny-of-chinese-deals-1517230800> (last visited April 17, 2023).

¹³ <https://ipcloseup.com/2021/05/04/ibms-drop-in-direct-ip-licensing-revenue-may-be-a-reflection-of-secular-changes-in-tech-law/> (last visited April 17, 2023).

like in the years after 2014, IBM was unscrupulous in seeking out new licensing income streams in 2021 and 2022. This time, IBM did so directly at GF's expense and in violation of GF's statutory and contractual rights.

IBM Turns To Intel With GF's Trade Secrets

29. IBM has embarked on an unlawful plot to disregard GF's exclusive rights and disclose GF-Controlled Trade Secrets to others. IBM's unlawful plot was first revealed when it announced a partnership with Intel, a competing chip manufacturer which has repeatedly announced its intention to become a leading producer of semiconductors for "fabless" chip companies in competition with foundries like GF.¹⁴

30. On March 23, 2021, IBM announced a research collaboration with Intel for next generation semiconductor technologies. IBM's press release stated that "IBM brings to this partnership decades of 'hard tech' semiconductor innovation that have shaped the industry" including "debuting the world's first 7 nanometer" test chips and "the industry's first advanced 'nanosheet' device structure and electronics packaging technologies."¹⁵ IBM touted that Intel would be "leveraging" this research, along with decades of additional research developed in the "semiconductor research ecosystem in Albany, NY."¹⁶ It is GF, however, not IBM, that has the exclusive right to control licensing and disclosure of this Albany-developed technology created during the "decades" of the GF-IBM collaboration.

¹⁴ <https://www.intel.com/content/www/us/en/newsroom/news/idm-manufacturing-innovation-product-leadership.html#gs.unejni> (last visited April 17, 2023);

<https://www.theverge.com/2021/3/23/22347250/intel-new-factories-arizona-20-billion-chips-outsourcing-foundry-services-manufacturing> (last visited April 17, 2023).

¹⁵ <https://newsroom.ibm.com/Intel-Teams-with-IBM-for-Advanced-Semiconductor-Research-and-Development> (last visited April 17, 2023).

¹⁶ *Id.*

31. It is no surprise that IBM targeted Intel for IBM's unlawful disclosure of GF's trade secrets, which include key enabling technologies in the manufacture of 7nm, 2nm, and smaller nodes: In addition to publicly proclaiming its intent to become a leading "foundry" supplier of chips to other companies, in the last ten years, Intel has faced widely publicized problems and delays that have set it behind the rest of the industry. By 2015, the year GF and IBM made the world's first 7nm test chip, Intel's most advanced chip used 14nm transistors. It was not until 2019, four years after originally planned, that Intel finally released a 10nm chip. Intel alleged that its 7nm chip would follow two years later, but that work was similarly plagued with delays. Meanwhile, other chip makers released 7nm products and announced significant progress on 5nm, 3nm, and 2nm nodes.

32. Intel apparently believed that its manufacturing troubles with 7nm and smaller nodes were resolved after it began its partnership with IBM, who on information and belief unlawfully disclosed GF's trade secrets to Intel. As shown below, the same day IBM announced it was letting Intel "leverage" decades of Albany-developed (and GF-controlled) research, Intel stated it would move "rapidly through 7nm process maturity." And after years of failure with the 7nm node, Intel stated that it would begin manufacturing 7nm chips in "Q2 2021," the quarter immediately following when the Intel-IBM partnership was announced.

Intel Teams with IBM for Advanced Semiconductor Research & Development

By Dario Gil | Senior Vice President and Director of IBM Research

March 23, 2021

IBM and Intel announced an important research collaboration to advance next-generation logic and packaging technologies.

IBM is a proponent of partnerships to accelerate innovation in the industry and has cultivated a thriving semiconductor research ecosystem in Albany, NY. This ecosystem has been built over nearly two decades . . .

Now, we are delighted that Intel, the world's largest semiconductor manufacturer, will be partnering with IBM and leveraging this unique chip innovation ecosystem to facilitate even greater R&D collaboration and catalyze critical new innovations in semiconductor technology.

<https://newsroom.ibm.com/Intel-Teams-with-IBM-for-Advanced-Semiconductor-Research-and-Development>



33. Likewise, before the IBM partnership, Intel announced that it would not be able to debut chips using 2nm nodes before 2027, but after partnering with IBM, Intel announced plans to make a 2nm chip as early as 2024. As recently as January 2023, Intel acknowledged its

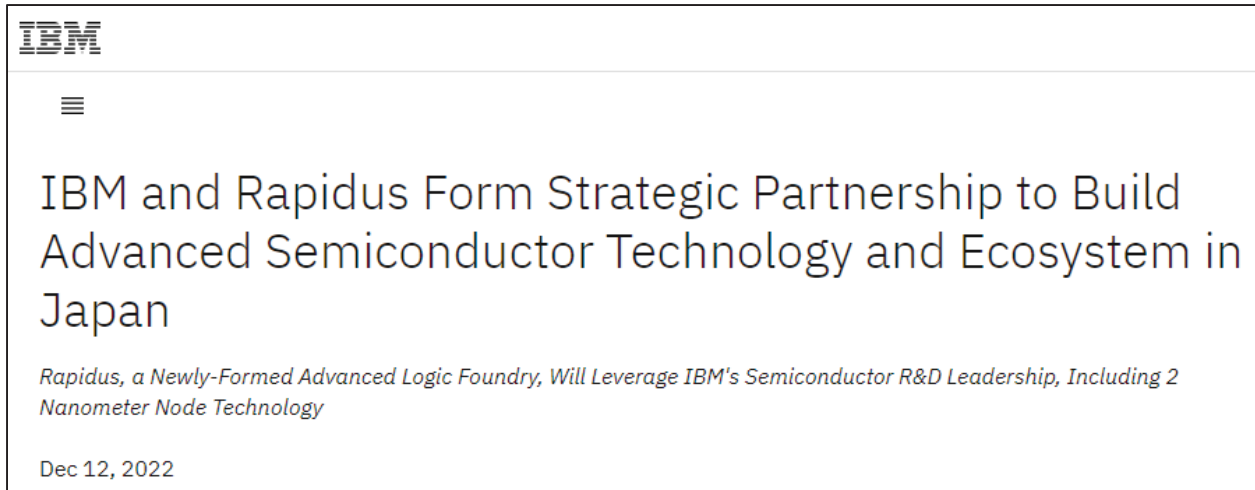
“accelerated” timeline with “5 nodes in 4 years.” Intel’s leap forward in its technology roadmap was, on information and belief, aided by IBM’s misappropriation of GF-Controlled Trade Secrets.



IBM Discloses GF’s Trade Secrets To Rapidus

34. IBM’s disregard for GF’s exclusive rights to GF IP continues unabated.

35. In December 2022, IBM announced a partnership with Rapidus Corporation, mirroring its earlier announcements related to Intel that first revealed IBM would be unlawfully disclosing GF IP. IBM similarly states that it will allow Rapidus to “leverage” advanced semiconductor technology developed in Albany and that IBM intends to provide Rapidus with “decades of expertise in semiconductor research and design,” including technology underlying the “2 nm node chip,” i.e., GF IP.



<https://newsroom.ibm.com/2022-12-12-IBM-and-Rapidus-Form-Strategic-Partnership-to-Build-Advanced-Semiconductor-Technology-and-Ecosystem-in-Japan> (last visited April 17, 2023).

36. It is GF, however, not IBM, that has the sole and exclusive right to control licensing and disclosure of the “decades” of Albany-developed technology.

IBM’s Knowing Campaign To Publicly Disclose GF IP

37. In addition to known partnerships with Intel and Rapidus, IBM has also embarked on a knowing campaign to *publicly disclose* GF IP, including GF IP that IBM admits is key to enabling the design of advanced nanosheet and vertical FET transistors. IBM publications from 2021, for example, are riddled with near-duplicate images reflecting GF-Controlled Trade Secrets that were kept in a confidential database accessible only to IBM and GF.

38. IBM’s unlawful acts reflect a knowing, willful scheme to violate GF’s contractual and statutory rights. IBM’s unlawful acts must stop.

39. For these reasons and as alleged in detail below, GF brings this action against IBM for trade secret misappropriation, in violation of the Defend Trade Secret Act, 18 U.S.C. § 1836, et seq, and for breach of contract.

GF Diligently Protects Its Trade Secret and Confidential Information

40. GF heavily invests in research and development in order to offer its customers fast, high-quality, and cost-effective paths to produce semiconductor wafers.

41. As part of its efforts to provide advanced manufacturing services for its customers, GF heavily invested in research and development through a collaboration with IBM.

42. On March 26, 2007, IBM and AMD (GF's predecessor) entered into the Initial Agreement to govern semiconductor technology joint development projects initiated by or conducted in conjunction with IBM.

43. Research conducted with IBM was primarily performed at the Albany Research Fab located at 251-257 Fuller Road, Albany, New York.

44. At the Albany facility, research and development teams from GF and IBM worked together on technology related to advanced transistor fabrication processes, including for 10nm and smaller transistor nodes. GF and IBM spent millions of dollars on techniques for controlling, implementing, and using Extreme Ultraviolet ("EUV") lithography tools, a key emerging process for enabling the manufacture of 7nm and the next generations of smaller transistor chips. All such work was highly confidential and was subject to GF's own confidentiality protocols, IBM's confidentiality protocols, and agreements governing confidentiality between the parties.

45. GF has acted reasonably and diligently to protect the secrecy of the trade secret and confidential information it owns or controls, including trade secret information it has developed, acquired, and has the exclusive right to license and disclose, including the GF-Controlled Trade Secrets, at least by the following measures:

- Requiring employees to execute the GlobalFoundries Employee IP Agreement, which includes confidentiality, non-disclosure, and return of property obligations;

- Using a secure database exchange and collaboration system to exchange confidential information with IBM. The system restricts access to named authorized users and includes functionality to track which entity accessed documents and when, and whether any changes have been made and when;
- Maintaining high password and technical standards for access and security of the secure database;
- Restricting access to and requiring security badges for all individuals entering the premises where research and development or manufacturing is conducted, and log-in/log-out requirements when entering or leaving designated work areas;
- Prohibiting the use of cameras or recording features where research was conducted;
- Entering into agreements with IBM and other third parties imposing confidentiality obligations and procedures; and
- Conducting annual Employee Code of Conduct training which addresses the handling of trade secrets and other confidential information.

**GF's Acquisition Of IBM's Microelectronics Business
and the Albany Cooperation Agreement**

46. In 2015, GF acquired IBM's Microelectronics Business, which was losing half a billion dollars every year. In exchange for taking on those risks and liabilities, and in order to protect its competitive positioning, GF received exclusive control over the licensing and disclosure of the advanced semiconductor manufacturing trade secrets that had been, and would be, developed in the research programs between GF and IBM.

47. As part of its acquisition of IBM's Microelectronics Business, GF and IBM entered into the ACA, which amended the Initial Agreement.

48. IBM granted GF the exclusive right and license under non-patent intellectual property rights to disclose (subject to reasonable confidentiality obligations), sublicense and grant any covenant, right or benefit with respect to any Specific Results developed and/or contributed to a Development Project prior to and after the date of the ACA.

49. IBM contractually agreed that “Specific Results” includes:

[REDACTED]

[REDACTED]

[REDACTED]

50. IBM granted GF an exclusive right and license to Jointly Owned Albany Foreground IP (“Foreground IP”), including the exclusive right and license to disclose, sublicense, grant any covenant, right or benefit with respect to it.

51. IBM contractually agreed that Foreground IP includes:

[REDACTED]

¹⁷ “Specific Results” excludes certain technology and other items that are not relevant to the dispute between GF and IBM.

52. The exclusive rights IBM granted to GF in the ACA take precedence over previous agreements between IBM and GF with respect to intellectual property and technology developed or contributed under joint development project agreements.

53. IBM agreed in the ACA to independent confidentiality obligations binding IBM to maintain the confidentiality of all non-public and/or proprietary information and technical information disclosed under or in connection with the ACA for a period of at least ten (10) years after that non-public and/or proprietary information was first disclosed.

54. GF's acquisition of IBM's Microelectronics Business and the signing of the ACA fundamentally altered and narrowed IBM's rights to disclose Specific Results.

55. IBM contractually forfeited its right to disclose Specific Results without GF's authorization for various purposes including joint development with third parties, and it granted GF exclusive rights to disclose or license Specific Results as discussed above.

56. Since the ACA was put in place, bilateral joint development projects conducted at the Albany Research Fab located at 251-257 Fuller Road, Albany, New York have been documented by "Albany Project Agreements" under the ACA, while other joint development projects have been under "Joint Development Project Agreements." The latter are governed by the Master IBM Joint Development Terms and Conditions between the parties dated as of March 26, 2007 (the "Initial Agreement"), as amended by the ACA.

57. Without limitation, relevant "Joint Development Project Agreements" to the present dispute between GF and IBM include (1) Joint Development Project Agreement for 7nm Semiconductor Process and Enablement Technologies ("7nm Development Project"), and (2) Joint Development Project Agreement for Pathfinding Semiconductor Technology Research ("Pathfinding Development Project"), dated January 1, 2013. Without limitation, relevant

bilateral GF-IBM Projects to the present dispute between GF and IBM include Albany Project Agreements.

7nm Development Project

58. IBM and GF entered into the 7nm Development Project on January 1, 2014, which included development work through December 31, 2015. The Specific Results of the 7nm Development Project are governed by the Initial Agreement, as amended by the ACA.

59. As part of the 7nm Development Project, GF and IBM jointly developed 7nm semiconductor process and enablement technologies on bulk wafers, focusing on process technology and enablement technology that target marketplace requirements, leading edge technology, and cost efficiencies.

60. IBM contractually agreed to the technical subject matter and scope of “Specific Results” for the 7nm Development Project.

61. Specific Results from the 7nm Development Project included, without limitation, enablement for semiconductor manufacturing processes under the 7nm process project, including the development of [REDACTED] to improve the ability to modify and extend such technology, and developing highly competitive and high quality architecture and components. GF and IBM developed confidential technology features and research relating to [REDACTED]

[REDACTED]

[REDACTED]

[REDACTED]

62. The Specific Results also describe, reflect, reference and relate to the thorough scientific process required to create products using 7nm manufacturing processes, some of which were unsuccessful and resulted in experimental dead ends but some of which resulted in substantial

and/or incremental improvements that are crucial to enabling 7nm and subsequent generations of semiconductor technologies.

63. The Specific Results developed under the 7nm Development Project derive independent economic value, actual or potential, from not being generally known to, and not being readily ascertainable through proper means by, another person who can obtain economic value from the disclosure or use of the information. For example, the Specific Results could save a competitor hundreds of millions or billions of dollars and significant time that could be used as a springboard for further research and refinement of 7nm and subsequent generations of semiconductor technology, including such technology that utilized EUV lithography techniques.

64. At all relevant times, GF acted reasonably and diligently to protect the secrecy of the Specific Results from the 7nm Development Project that it owns and has the exclusive right to license or disclose by the measures described above.

Pathfinding Development Project

65. IBM and GF entered into the Pathfinding Development Project on January 1, 2014, as amended and restated on January 1, 2016, which included development work through December 31, 2018. The Specific Results of the Pathfinding Project are governed by the Initial Agreement, as amended by the ACA.

66. The strategic technology objective of the Pathfinding Development Project was to

[REDACTED]

[REDACTED] The parties agreed to work together to research and evaluate [REDACTED]

[REDACTED]

[REDACTED]

67. IBM contractually agreed to the technical subject matter and scope of “Specific Results” for the Pathfinding Development Project.

68. The Specific Results from the Pathfinding Development Project included documentation as well as know-how, materials, information, and items resulting from the Development Project, including but not limited to [REDACTED]

69. Specific Results from the Pathfinding Development Project included, without limitation, [REDACTED]

70. The Specific Results also describe, reflect, reference and relate to the thorough scientific process required to create 10nm and subsequent generations of semiconductor technologies, some of which were unsuccessful and resulted in experimental dead ends, but some of which resulted in substantial and/or incremental improvements that are crucial to enabling 10nm and subsequent generations of semiconductor technologies.

71. The Specific Results developed under the Pathfinding Development Project derive independent economic value, actual or potential, from not being generally known to, and not being readily ascertainable through proper means by, another person who can obtain economic value from the disclosure or use of the information. For example, the Specific Results could save a competitor hundreds of millions or billions of dollars and significant time that could be used as a springboard for further research and refinement for 10nm and subsequent generations of semiconductor technology, including [REDACTED]

72. At all relevant times, GF acted reasonably and diligently to protect the secrecy of the Specific Results from the Pathfinding Development Project that it owns and has the exclusive right to license or disclose by the measures described above.

Albany Project Agreements

73. Each year from 2016 to 2018, IBM and GF entered into Technology Support, Development and Performance Learning agreements (“APA Agreements”) to conduct technology development support and demonstration of 7 nm semiconductor elements, technology development and definition towards a next node (i.e., sub-7nm elements), as well as continued execution and enhancement of EUV in support of 7 nm semiconductor elements. Licensing and disclosure of “Foreground IP” for the APA agreements is governed by the ACA.

74. IBM contractually agreed to the technical subject matter and scope of “Foreground IP” for the APA Agreements.

75. In connection with these agreements, IBM and GF developed proprietary Foreground IP relating to, for example and without limitation, [REDACTED]

[REDACTED]

[REDACTED]

[REDACTED] The Albany Foreground IP also included developments [REDACTED]

[REDACTED]

[REDACTED]

[REDACTED]

[REDACTED]

76. The Foreground IP also describes, reflects, references and relates to the thorough scientific process required to create products using 7nm manufacturing processes and [REDACTED], some of which were unsuccessful and resulted in experimental dead ends, but

some of which resulted in substantial and/or incremental improvements that are crucial to enabling 7nm and subsequent generations of semiconductor technologies.

77. The Foreground IP developed pursuant to APA Agreements derives independent economic value, actual or potential, from not being generally known to, and not being readily ascertainable through proper means by, another person who can obtain economic value from the disclosure or use of the information. For example, the Foreground IP could save a competitor hundreds of millions or billions of dollars and significant time that could be used as a springboard for further research and refinement for 7nm and subsequent generations of semiconductor technology, including such technology that use [REDACTED]

78. At all relevant times, GF acted reasonably and diligently to protect the secrecy of the Foreground IP developed under the APA Agreements that it owns and has the exclusive right to license or disclose by the measures described above.

79. GF continued working with IBM on research and development in Albany, NY until the end of 2018, at which point all Development Projects between GF and IBM were completed.

80. Although there are no active Development Projects between GF and IBM, the ACA remains in force, including GF's exclusive right to disclose and license GF-Controlled Trade Secrets, including without limitation (1) Specific Results from the Pathfinding Development Agreement, (2) Specific Results from the 7nm Development Agreement, and (3) Albany Foreground IP from the Albany Project Agreements.

81. IBM has knowingly misappropriated GF-Controlled Trade Secrets, including by disclosing GF-Controlled Trade Secrets to Intel, Rapidus, and the public.

Intel Falls Behind In Advanced Semiconductor Development

82. Intel and GF compete in the manufacture of semiconductor devices.

83. Intel has generally been known as a leader in the development of advanced processes for semiconductor device manufacturing. One of Intel's focuses has been to push the limits of Moore's law, which is the observation that the number of transistors in an integrated circuit (IC) doubles about every two years. To push the limits of Moore's law, Intel has historically tried to introduce a new process generation using ever smaller transistor technology approximately every two years.

84. For example, on or about April 23, 2012, Intel began selling chipsets using 22 nm transistor technology. Then, in August 2014, Intel announced details of a 14 nm microarchitecture.

85. Since 2014, however, Intel has struggled to advance its 14nm chip-making process to smaller nodes, falling behind its competitors.¹⁸

86. Intel announced that its original goal was to launch 10nm chips in 2016. But on or around July 2015, Intel announced it had to delay its manufacture of 10nm chips due to problems upgrading its fabrication systems.¹⁹

87. On or around April 2018, Intel further delayed its manufacture of 10nm chips by at least a year.²⁰ Intel eventually released its 10nm chips in 2019 through its "Ice Lake" family of products.²¹

¹⁸ <https://www.pcmag.com/news/intel-to-decide-on-tapping-third-party-foundry-for-7nm-chips-by-early-2021> (last visited April 17, 2023).

¹⁹ <https://www.pcmag.com/news/intel-sorry-but-our-7nm-chips-will-be-delayed-to-2022-2023> (last visited April 17, 2023).

²⁰ <https://www.theverge.com/circuitbreaker/2018/4/27/17291040/intel-10nm-cannon-lake-chips-delayed-2019-cpu-processor> (last visited April 17, 2023).

²¹ <https://www.pcmag.com/news/intel-sorry-but-our-7nm-chips-will-be-delayed-to-2022-2023> (last visited April 17, 2023).

88. By then, Intel had fallen behind its competitors in the research and development of semiconductor technology. For example, in July 2015, industry publications recognized that GF and IBM had “leapfrogged” Intel by announcing their breakthrough demonstration of 7nm chips by perfecting EUV lithography and using silicon-germanium channels for its finned field-effect transistors (FINFETs).²²

89. Intel announced that it would attempt to get back on its 2 year development cycle with its next generation of 7nm chips, to be released in 2021. But again on or around July 23, 2020, Intel announced it had to delay the release of its 7nm chips to 2022 or 2023 due to problems with its transistor fabrication techniques.²³

90. As a result of Intel’s delays in developing 7nm chips, Intel lost significant business. For example, Apple announced it would transition away from Intel’s chips and use chips made by one of Intel’s main competitors.²⁴

91. On information and belief, IBM sought to capitalize on Intel’s years of struggle by knowingly misappropriating GF-Controlled Trade Secrets and disclosing them to Intel beginning on or around early 2021.

IBM’s Unlawful Disclosure of Trade Secret And Proprietary Information To Intel

92. On or around March 23, 2021, IBM and Intel announced a partnership for advanced semiconductor research & development. The partnership aligned with IBM’s long-standing pattern and practice of licensing out intellectual property to earn revenues, especially in light of IBM’s

²² <https://www.eetimes.com/ibm-leapfrogs-intel-to-7nm/> (last visited April 17, 2023).

²³ <https://www.pcmag.com/news/intel-sorry-but-our-7nm-chips-will-be-delayed-to-2022-2023> (last visited April 17, 2023).

²⁴ <https://www.theverge.com/22597713/intel-7nm-delay-summer-2020-apple-arm-switch-roadmap-gelsinger-ceo> (last visited April 17, 2023).

decision to exit the chip-manufacturing business.²⁵ For Intel, the partnership was part of a larger strategy to reinvigorate Intel's foundry business which, as discussed above, had suffered numerous setbacks.²⁶ Intel's plans included spending \$20 billion to build two new advanced-node fabs in Arizona, thus destined to use GF-Controlled Trade Secrets.²⁷

93. On information and belief, IBM knowingly misappropriated GF-Controlled Trade Secrets by disclosing or licensing it to Intel in breach of the ACA. As discussed above, GF has the exclusive right to disclose or license Specific Results and Foreground IP from, for example, the Pathfinding Development Agreement, the 7nm Development Agreement, and the APA Agreements.

94. The ACA includes limited exceptions where IBM is permitted to disclose certain information to third parties, but no exceptions apply to IBM's disclosure of GF-Controlled Trade Secrets to Intel.

95. GF has not granted IBM any right to disclose or license GF-Controlled Trade Secrets to Intel.

96. IBM announced that it was providing Intel with "decades of 'hard tech' semiconductor innovations that have shaped the industry, from the invention of one-transistor DRAM, to chemically amplified resists, to copper interconnects, to silicon germanium chips, to debuting the world's first 7 nanometer and 5 nanometer node test chips, to IBM's continued

²⁵ <https://ipccloseup.com/2021/05/04/ibms-drop-in-direct-ip-licensing-revenue-may-be-a-reflection-of-secular-changes-in-tech-law/> (last visited April 17, 2023).

²⁶ <https://www.intel.com/content/www/us/en/newsroom/news/idm-manufacturing-innovation-product-leadership.html#gs.unejni> (last visited April 17, 2023).

²⁷ <https://www.timesunion.com/business/article/Intel-IBM-team-up-in-move-that-could-bring-16061014.php> (last visited April 17, 2023).

innovation in the industry’s first advanced ‘nanosheet’ device structure and electronics packaging technologies.”²⁸ The semiconductor innovations that IBM references in its announcement include GF-Controlled Trade Secrets that were developed by GF and IBM under, without limitation, the Pathfinding Development Agreement, the 7nm Development Agreement, and the APA Agreements.

97. IBM announced that the research it was providing to Intel was “cultivated” in the “research ecosystem in Albany, NY.”²⁹ GF and IBM’s research and development under the Pathfinding Development Agreement, the 7nm Development Agreement, and the APA Agreements were conducted in Albany, NY.

98. IBM Research’s Vice President of Hybrid Cloud, Mukesh Khare, is attributed with stating that the “IBM/Intel partnership is a cross pollination of ideas that comes from the IBM and Intel engineers working together.”³⁰ On information and belief, the “ideas” coming from IBM include and/or disclose GF-Controlled Trade Secrets that IBM does not have the right to disclose.

99. Prior to the IBM partnership, as discussed above, Intel had repeatedly delayed the release of 7nm chips due to difficulties with the manufacturing process. This changed once IBM gave Intel access to the GF-Controlled Trade Secrets.

100. For example, Intel announced that it had originally planned to limit its use of EUV for its 7nm process. However, midway through the development of its 7nm chips, Intel decided it would use EUV lithography. And on the same day that it announced its partnership with IBM,

²⁸ <https://newsroom.ibm.com/Intel-Teams-with-IBM-for-Advanced-Semiconductor-Research-and-Development> (last visited April 17, 2023).

²⁹ *Id.*

³⁰ <https://www.tomshardware.com/news/ibm-unveils-worlds-first-2nm-chip-with-nanosheet-tech-intel-and-samsung-to-benefit> (last visited April 17, 2023).

Intel announced that its 7nm development was progressing well, driven by increased use of EUV.³¹

[REDACTED]

[REDACTED] Intel's 7nm chips also used FINFET transistors, just like the novel 7nm chip that was demonstrated by GF and IBM in 2015.³²

101. The transistor fabrication techniques that Intel announced it would use for its 7nm chips are substantially similar to the proprietary research conducted by GF and IBM in Albany, including the GF-Controlled Trade Secrets discussed above.

102. On information and belief, Intel's chip development has been aided by IBM's misappropriation GF-Controlled Trade Secrets.

103. After the IBM-Intel partnership was announced, Intel stated that EUV was crucial to its future product development for 7nm and smaller chips.³³ [REDACTED]

[REDACTED]

[REDACTED] On information and belief, IBM misappropriated Specific Results and Albany Foreground IP in breach of the ACA to give Intel a head-start on the use of EUV lithography for 7nm and smaller chips.

104. In June, 2022, Intel published its first papers describing its "Intel 4" chips using 7nm technology.³⁴ On information and belief, similarities between the Intel 4 chips and GF-

³¹ <https://www.intel.com/content/www/us/en/newsroom/news/idm-manufacturing-innovation-product-leadership.html> (last visited April 17, 2023).

³² <https://www.protocol.com/enterprise/intel-euv-fab-chips> (last visited April 17, 2023).

³³ <https://www.nytimes.com/2021/07/04/technology/tech-cold-war-chips.html> (last visited April 17, 2023).

³⁴ B. Sell et al., *Intel 4 CMOS Technology Featuring Advanced FinFET Transistors optimized for High Density and High-Performance Computing*, 2022 IEEE Symposium on VLSI

Controlled Trade Secrets show that IBM misappropriated GF-Controlled Trade Secrets by unlawfully disclosing them to Intel. For example, Intel 4 chips are designed using a 7nm node FINFET architecture and are the “first time” that Intel has used “extensive employment of EUV [to] enable[] feature scaling and process simplification.”³⁵ The 7nm chip technology that GF and IBM developed in Albany that “leapfrogged” Intel in 2015 used these same features and techniques,³⁶ and [REDACTED]

[REDACTED]. On information and belief, Intel’s ability to manufacture 7nm “Intel 4” chips is based at least in part on IBM’s unlawful disclosure of GF-Controlled Trade Secrets.

105. As a result of IBM’s unlawful disclosure of GF-Controlled Trade Secrets from IBM’s and GF’s Albany research, Intel was able to, on information and belief, bring its 7nm chips to market faster in competition with chips offered by GF in the market.

106. On information and belief, IBM has misappropriated GF-Controlled Trade Secrets by disclosing them to Intel to advance Intel’s future product development cycles for sub-7nm chips. For example, Intel announced on or around July 26, 2021 that future devices would use nanosheet or nanoribbon technology.³⁷ In particular, Intel’s 20A or 2nm chips are expected to implement nanosheet or nanoribbon technology.³⁸

Technology and Circuits (VLSI Technology and Circuits), Honolulu, HI, USA, 282-283 (2022).

³⁵ *Id.*

³⁶ <https://www.eetimes.com/ibm-leapfrogs-intel-to-7nm/> (last visited April 17, 2023).

³⁷ <https://www.intel.com/content/www/us/en/corporate/usa-chipmaking/news-and-resources/video-intel-intros-ribbonfet-powervia-technologies.html> (last visited April 17, 2023).

³⁸ <https://download.intel.com/newsroom/2021/client-computing/Intel-Accelerated-2021-presentation.pdf> (last visited April 17, 2023).

107. On information and belief, IBM's misappropriation of GF-Controlled Trade Secrets has allowed or will allow Intel to bring its 2nm chips (20A product) to market faster, which may compete with products offered by GF.

108. For example, as of 2019, Intel's original plan was to bring its 2nm chip (20A product) to market in 2027.³⁹ However, after announcing its partnership with IBM, Intel announced it planned to make its 2nm chip (20A product) as early as 2024.⁴⁰ Intel later confirmed it was on track to start using its 2nm chip (20A product) in the first half of 2023.⁴¹

109. Two months after IBM announced its partnership with Intel, IBM introduced what it referred to as "the world's first 2nm node chip."⁴² IBM admitted that 2 nm chips were enabled by research that had been conducted in Albany in 2017 when GF and IBM were actively researching nanosheet technology.

110. For example, IBM engineers Dechao Guo and Julien Frougier (the latter a former GF engineer who worked for GF in Albany in 2017), explained that IBM's 2nm nanosheet development was the culmination of numerous technology innovation breakthroughs, at least some of which are GF-Controlled Trade Secrets. IBM stated that an "Aha!" moment for the development of 2nm nanosheet technology "came in 2017" when it was realized that "an inner spacer module in the transistor could be a key enabler of nanosheet performance by reducing gate

³⁹ <https://www.anandtech.com/show/15217/intels-manufacturing-roadmap-from-2019-to-2029> (last visited April 17, 2023).

⁴⁰ <https://www.anandtech.com/show/16823/intel-accelerated-offensive-process-roadmap-updates-to-10nm-7nm-4nm-3nm-20a-18a-packaging-foundry-emib-foveros> (last visited April 17, 2023).

⁴¹ <https://www.tomshardware.com/news/intel-completes-development-of-18a-20a-nodes> (last visited April 17, 2023).

⁴² <https://research.ibm.com/blog/2-nm-chip> (last visited April 17, 2023).

to source/drain capacitance.”⁴³ IBM also stated that 2nm nanosheet technology depends on the use of inner spacers combined with a “full bottom dielectric isolation scheme.”⁴⁴ A third “key advancement” IBM announced was the “development of a new multi-threshold voltage (Multi-Vt) device offering.”⁴⁵

111. [REDACTED]

112. On information and belief, IBM misappropriated to Intel GF-Controlled Trade Secrets that enable nanosheet performance. IBM misappropriated this information to provide Intel with an unfair head-start, allowing it to leapfrog the many years of research on enabling nanosheet technology that GF has the exclusive right to disclose or license.

113. IBM’s 7nm and smaller development is inherently incremental and necessarily uses, contains, and builds on innovation from decades of prior development, including GF-Controlled Trade Secrets, the licensing and disclosure of which are controlled by GF. Examples of GF-Controlled Trade Secrets, the licensing and disclosure of which are controlled by GF and that are necessary to the IBM-Intel development partnership include without limitation the Specific Results and Foreground IP discussed above as well as:

43 *Id.*

44 *Id.*

45 *Id.*



114. On information and belief, IBM purported to grant Intel a license or sublicense to certain technology or intellectual property within the GF-Controlled Trade Secrets that IBM was prohibited from licensing by virtue of the exclusive rights it granted GF.

115. On information and belief, IBM received valuable consideration from Intel in connection with the IBM-Intel partnership.

116. On information and belief, IBM received valuable consideration from Intel in exchange for its disclosure of GF-Controlled Trade Secrets to Intel.

117. On information and belief, IBM received valuable consideration from Intel in exchange for its licensing of GF-Controlled Trade Secrets to Intel.

118. On information and belief, IBM will receive valuable consideration from its disclosure or license of GF-Controlled Trade Secrets to Intel, including supply of Intel chips and processors to IBM.⁴⁶

119. On information and belief, IBM engineers that worked on GF-Controlled Trade Secrets have continued access to GF-Controlled Trade Secrets that were confidentially disclosed between IBM and GF.

120. On information and belief, IBM engineers collaborating with Intel on 7nm and smaller chips also worked on research and development of substantially similar GF-Controlled Trade Secrets.

121. On information and belief, IBM engineers that have collaborated with Intel as part of the Intel-IBM partnership accessed and directly or indirectly disclosed GF-Controlled Trade Secrets to Intel.

⁴⁶ <https://www.intel.com/content/www/us/en/partner/showcase/ibm/overview.html> (last visited April 17, 2023).

122. Based on what is currently known to GF from publicly available information, GF does not allege that Intel knew or had reason to know that the information it received from IBM was in breach of agreements to maintain secrecy between IBM and GF.

IBM's Unlawful Disclosure of Trade Secret And Proprietary Information To Rapidus

123. On or around December 12, 2022, IBM and Rapidus “announced a joint development partnership to advance logic scaling technology as part of Japan’s initiatives to become a global leader in semiconductor research, development, and manufacturing.”⁴⁷

124. On information and belief, IBM knowingly misappropriated GF-Controlled Trade Secrets by disclosing or licensing them to Rapidus in breach of the ACA. As discussed above, GF has the exclusive right to disclose or license Specific Results and Foreground IP from, for example, the Pathfinding Development Agreement, the 7nm Development Agreement, and the APA Agreements.

125. It has also been reported that “before it begins 2nm production in Japan, Rapidus will utilize IBM’s 7nm FinFET Technology featuring EUV patterning.”⁴⁸ Upon information and belief, such 7nm FinFET Technology featuring EUV patterning contains GF-Controlled Trade Secrets.

126. The ACA includes limited exceptions where IBM is permitted to disclose certain information to third parties, but no exceptions apply to IBM’s disclosure of GF-Controlled Trade Secrets to Rapidus.

⁴⁷ <https://newsroom.ibm.com/2022-12-12-IBM-and-Rapidus-Form-Strategic-Partnership-to-Build-Advanced-Semiconductor-Technology-and-Ecosystem-in-Japan> (last visited April 17, 2023).

⁴⁸ <https://seekingalpha.com/article/4574776-ibm-gets-win-from-japan-with-its-agreement-to-us-sanctions> (last visited April 17, 2023).

127. GF has not granted IBM any right to disclose or license GF-Controlled Trade Secrets to Rapidus.

128. IBM announced that it was providing Rapidus with “decades of expertise in semiconductor research and design,” including technology underlying the “2 nm node chip” that it announced in 2021.⁴⁹ As discussed above the “2 nm node chip” IBM announced in 2021 includes GF-Controlled Trade Secrets that were developed by GF and IBM under at least APA agreement #3 and the Pathfinding Development Project relating to, *inter alia*, [REDACTED]

[REDACTED]

[REDACTED]

129. IBM announced that “Rapidus scientists and engineers will work alongside IBM Japan and IBM researchers at the Albany NanoTech Complex” in Albany, New York. As discussed above, GF and IBM’s research and development under the Pathfinding Development Agreement, the 7nm Development Agreement, and the APA Agreements were conducted at the Albany NanoTech Complex in Albany, NY.

130. On information and belief, IBM engineers collaborating with Rapidus had and/or continue to have access to GF-Controlled Trade Secrets that were confidentially disclosed between IBM and GF.

131. On information and belief, IBM engineers collaborating with Rapidus as part of the Rapidus-IBM partnership accessed and directly or indirectly disclosed GF-Controlled Trade Secrets to Rapidus.

⁴⁹ <https://newsroom.ibm.com/2022-12-12-IBM-and-Rapidus-Form-Strategic-Partnership-to-Build-Advanced-Semiconductor-Technology-and-Ecosystem-in-Japan> (last visited April 17, 2023).

132. On information and belief, IBM misappropriated to Rapidus GF-Controlled Trade Secrets that enable nanosheet chip manufacturing. IBM misappropriated this information to provide Rapidus with an unfair head-start, allowing it to leapfrog the many years of research on enabling nanosheet technology that GF has the exclusive right to disclose or license.

133. IBM's 2022 Annual Report states that "[i]n the fourth quarter of 2022, we signed a three-year joint development and licensing agreement with a Japanese consortium to leverage our intellectual property and expertise on advanced semiconductors which resulted in income of approximately \$100 million in 2022."⁵⁰

134. On information and belief, Rapidus is the "Japanese consortium" that IBM refers to in its 2022 Annual Report.

135. On information and belief, IBM's "three year development and licensing agreement" with Rapidus includes GF-Controlled Trade Secrets that IBM is prohibited from licensing by virtue of the exclusive licenses it granted GF as discussed previously.

136. On information and belief, IBM received approximately \$100 million from Rapidus in 2022 for its licensing and disclosure of GF-Controlled Trade Secrets.

137. On information and belief, IBM has and will receive additional valuable consideration from Rapidus in connection with its licensing and disclosure of GF-Controlled Trade Secrets to Rapidus.

138. Based on what is currently known to GF from publicly available information, GF does not allege that Rapidus knew or had reason to know that the information it received from IBM was in breach of agreements to maintain secrecy between IBM and GF.

⁵⁰ https://www.ibm.com/annualreport/assets/downloads/IBM_Annual_Report_2022.pdf at 22-23 (last visited April 17, 2023).

**IBM Researchers Continue To Access And Publicly Disclose
GF-Controlled Trade Secrets And Proprietary Information**

139. IBM's misappropriation of GF-Controlled Trade Secrets to Intel, Rapidus, and/or other third parties is also reflected in conference papers that were published by IBM without GF's consent in 2021. These conference papers demonstrate that IBM has engaged in ongoing and continued access to GF-Controlled Trade Secrets, and has knowingly disregarded GF's exclusive right to license and disclose its proprietary trade secret information.

140. In 2021, the same year that IBM announced its partnership with Intel, IBM unlawfully disclosed GF-Controlled Trade Secrets to the public. For example, IBM researchers published an article [REDACTED]

[REDACTED]

[REDACTED]

[REDACTED]

[REDACTED]

141. This GF-Controlled Trade Secret IBM unlawfully disclosed [REDACTED] is valuable to GF because of its secrecy, including because —as IBM admits [REDACTED]

[REDACTED]

142. Another separate unlawful disclosure of GF-Controlled Trade Secrets by IBM in 2021 was [REDACTED]

[REDACTED]

IBM disclosed highly confidential GF-Controlled Trade Secrets that would be valuable to GF's competitors, including how [REDACTED]

[REDACTED]

[REDACTED] For example, documentation and know-how relating to [REDACTED]

[REDACTED], in one or more of the following confidential documents disclosed between IBM and GF:

[REDACTED]

[REDACTED]

143. As another independent example, IBM unlawfully disclosed GF-Controlled Trade Secrets in [REDACTED]

[REDACTED]. For example, IBM disclosed

[REDACTED]

⁵¹ Each slide of the [REDACTED] That legend is covered by the bottom-most table on this particular slide.

144. As shown below, IBM knew that the research being conducted as part of the Pathfinding and other bilateral agreements between IBM and GF would be of particular value to Intel.



145. The foregoing examples are provided without limitation to any additional unlawful disclosures by IBM, either to the public or other third parties.

146. IBM's public disclosure of GF-Controlled Trade Secrets helps enables competitor semiconductor foundries worldwide benefit freely and without limitation from GF's investments, developments, and innovation to produce advanced 7nm and smaller chips. This includes

competitor semiconductor foundries that would be otherwise restricted from receiving advanced semiconductor manufacturing technology from U.S. companies.

147. IBM's disregard for GF's rights in the foregoing disclosures to the public each constitute independent acts of misappropriation.

148. Taken together, IBM's unlawful disclosures or licensing to Intel, Rapidus, and the public demonstrate that IBM has engaged in a pattern and practice of violating GF's statutory and contractual rights by unlawfully disclosing GF-Controlled Trade Secrets without authorization to third parties.

149. On information and belief, and in addition to other unjust enrichment, IBM's unlawful disclosure or license of GF-Controlled Trade Secrets to Intel, Rapidus, and other potential third parties has caused and will cause IBM to receive funding from the Department of Commerce National Semiconductor Technology Center Program.⁵² For example, on January 26, 2023, the U.S. National Science Foundation announced a \$50 million partnership with IBM, Intel, and others to "support the design of the next generation of semiconductors."⁵³

150. On information and belief, and in addition to other unjust enrichment, IBM has received or will receive funding, subsidies, and tax breaks from the U.S. government under the CHIPS Act.⁵⁴

⁵² <https://www.fierceelectronics.com/electronics/ibm-marks-another-discovery-milestone-2-nm-chip> (last visited April 17, 2023).

⁵³ <https://beta.nsf.gov/news/nsf-announces-nearly-50-million-partnership> (last visited April 17, 2023).

⁵⁴ https://www.theregister.com/2022/10/06/ibm_biden_chips/ (last visited April 17, 2023).

IBM Poached GF's Engineers To Support New Partnerships

151. Having entered into partnerships with Intel and Rapidus utilizing the GF-Controlled Trade Secrets, IBM next turned its attention towards acquiring the talent from GF that IBM would need to advise Intel and Rapidus (and others) on high-volume manufacturing of the advanced semiconductor technology being developed from the GF-Controlled Trade Secrets. The GF talent that IBM has targeted is highly knowledgeable and experienced in operationalizing the GF IP for high volume wafer manufacturing.

152. The value of the GF-Controlled Trade Secrets is significantly enhanced if IBM can also market itself as possessing sufficient expertise in technology development and fab operations. Taken together, IBM can hold itself out as providing a “full package” to customers like Intel and Rapidus because it can both provide the IP and operationalize it by advising on processes and methods for high volume wafer manufacturing. The problem for IBM was that after divesting its Microelectronics Division in 2015, it no longer had sufficient manufacturing process expertise in-house. This expertise regarding technology development and fab operations goes to the core of GF's business as a foundry.

153. Since January 2023, IBM has hired 13 engineers and one technician from GF, all of whom worked at Fab8, GF's facility in Malta, New York that is home to significant research and development projects for GF and is also a high-volume manufacturing plant where numerous employees leverage the GF's trade secret and confidential information to improve existing processes and develop technology. By way of comparison, this total for just the first 3.5 months of the year is at least double the number of engineers who moved from GF to IBM in all of 2022. The GF employees who IBM recruited were some of GF's most senior and experienced engineers (the “Poached Engineers”).

154. GF has a variety of systems for evaluating and scoring the performance of its employees, including a method for comparing and ranking its employees. Most of the Poached Engineers received among the highest ratings in their most recent performance reviews.

155. The Poached Engineers were also critical to GF's business. More than half were rated as having "high" business impact because they worked on developing the processes that are core to developing new technologies and developing and improving the processes by which those new technologies are mass produced. For instance, the Poached Engineers include:

- Two Process Integration Engineers ("Employee A" and "Employee B") with eleven and thirteen years of experience, respectively, who focused on the 7nm FINFET junction module process integration at Fab 8, and one who describes himself as an expert in process integration, semiconductor device, yield improvement, technology qualification, and new product introduction;
- A Chemical Vapor Deposition (CVD) Process Engineer in the Advanced Module Engineering (AME) ("Employee C") group supporting manufacturing and technology development with twelve years of experience (seven of which were at GF), who worked on strategic plans for Fab8;
- A Factory Systems Technician ("Employee D") with twelve years of experience (all of which were at GF), who worked on special projects to improve the operational efficiency of Fab8;
- An MTS Integration Engineer ("Employee E") with twenty-one years of experience (eleven of which were at GF), who worked on integrating advanced mechatronic systems into the Fab8 laboratory;
- A Senior Process Engineer ("Employee F") with ten years of experience (five and

a half of which were with GF), who describes himself as being responsible for recipe development, variability reduction, cost savings projects, defectivity improvement, and process optimization for high volume manufacturing;

- A Senior Technician Process Engineer (“Employee G”) with ten years of experience (seven of which were at GF), who was in charge of monitoring, controlling, and qualifying state of the art 300mm semiconductor equipment;
- A Design Engineer (“Employee H”) with twenty-eight years of experience (ten and a half of which were with GF); and
- A Design Engineer (“Employee I”) with nine years of experience (six years of which were at GF), among others.

156. Together, the Poached Engineers have over 100 years of experience at GF and 175 years of experience in the industry. The Poached Engineers cover a wide range of positions and collectively bring IBM enough experience with both technology development and fab operations to facilitate IBM’s business of supporting other chipmakers (like Intel and Rapidus) via its Albany Research Fab. And with its acquisition of the Poached Engineers, IBM has ensured that it will be able to utilize the GF-Controlled Trade Secrets and succeed in its partnerships with Intel and Rapidus. Indeed, upon information and belief, certain of the Poached Engineers are leveraging their GF work for IBM. For example:

- Employees C has knowledge of the 7nm manufacturing process, aspects of which they are using in their current work for IBM, all of which would be valuable to develop IBM’s partnerships with customers like Intel and Rapidus in advising Intel and Rapidus on designing and improving their own process for making chips at the 7nm node and lower.

- Employees E and F have knowledge of 14nm node production and recipe development, which would be valuable to develop advanced semiconductor manufacturing techniques at IBM. Since IBM itself has left the for-hire manufacturing business, this knowledge is presumably being leveraged for IBM's partnerships with Intel and Rapidus.
- Employee G was in charge of 300mm semiconductor equipment, which would be valuable to develop IBM's partnerships with customers like Intel and Rapidus.

Engineers' Contractual Commitments to GF

157. While employed at GF, each of the Poached Engineers signed the Employee IP Agreement, which requires at paragraph 5 that during and after their employment they would:

[H]old in strict confidence and ... not disclose, use or publish any information, matter or thing of a secret, confidential or private nature connected with the business of the Company or any of its suppliers, customers, employees, contractors or third party workers (collectively, "Confidential Information") For purposes of this Agreement, Confidential Information includes (without limitation) the following: **technical information** (e.g., know-how, formulas, computer programs, software and documentation, **secret processes or machines, inventions and research projects**), **business information** (e.g., information about prices, costs, profits, manufacturing yields, markets, sales, customers and business development plans), personnel information (e.g., policies, employee compensation, employee work preferences, personnel files and EU Personal Data) and other nonpublic Company data and information of a similar nature.

158. The Employee IP Agreement also states at paragraph 6 that for "for a period of one year following the termination of [his] employment," prohibited him from "directly or indirectly solicit[ing], induc[ing] or encourage[ing] an employee of the Company to leave his or her employment with the Company to work for another employer, or hire or attempt to hire an employee of the Company, without first obtaining the written consent of an Officer of the Company."

GF Complied With Dispute Resolution Requirements Prior To Filing Suit

159. On October 1, 2021, pursuant to the dispute resolution sections of the parties' agreements, GF sent IBM a Dispute Notice concerning IBM's use of semiconductor manufacturing process technology 1) transferred and assigned by IBM to GF and 2) developed by IBM, GF, and/or other participating members in Albany, as to which IBM granted GF exclusive rights to license and disclose such technology. GF and IBM subsequently engaged in negotiations to attempt to resolve the dispute short of litigation but IBM failed to cure its breach, and GF is now entitled under the dispute resolution provisions of such agreements to bring this suit.

IBM's Actions are Intentional

160. At all relevant times, IBM knew that it did not have the right to license or disclose the above-mentioned technology to Intel and Rapidus for purposes of the announced partnerships, to the public, or to other third parties.

161. For example, between mid-2015 and mid-2018, [REDACTED]

[REDACTED]

162. In its June 22, 2018 draft of the [REDACTED]

[REDACTED]

[REDACTED]

163. On or about August 16th, 2018, [REDACTED]

[REDACTED]

[REDACTED]

FIRST CAUSE OF ACTION

Violation By IBM of the Defend Trade Secrets Act (18 U.S.C. § 1836 et seq.)

164. GF re-alleges and incorporates by reference the allegations in paragraphs 1 through 163 as though fully set forth herein.

165. GF's trade secret and confidential information relates to products or services used, sold, purchased, or transported, or intended for use, sale, purchase, or transport, across the country and throughout the world.

166. GF-Controlled Trade Secrets, including Specific Results of the Pathfinding Development Project, Specific Results of the 7nm Development Project, and Foreground IP of the APA Agreements, constitute "trade secrets" within the meaning of 18 U.S.C. § 1839(3).

167. GF is the "owner" of GF-Controlled Trade Secrets, including Specific Results of the Pathfinding Development Project, Specific Results of the 7nm Development Project, and Foreground IP of the APA Agreements, as defined under 18 U.S.C. § 1839(4).

168. Over the course of its performance under the ACA and beforehand, GF has invested substantial resources in developing and protecting GF-Controlled Trade Secrets. GF-Controlled Trade Secrets provide GF with economic and technical advantages over its competitors.

169. IBM knew or should have known that the information at issue comprised GF-Controlled Trade Secrets. Among other reasons, it was disclosed and exchanged between GF and IBM subject to confidentiality requirements.

170. The above-detailed trade secret and confidential information that IBM disclosed to third parties, including Intel and Rapidus, or publicly disclosed derives independent economic value, both actual and potential, from not being generally known to and not being readily ascertainable through proper means by GF's competitors, or to other persons or entities who might obtain economic value from their disclosure or use.

171. At all times relevant herein, GF has taken the above-described reasonable measures to protect the secrecy of its trade secrets and confidential information, including that which IBM has misappropriated.

172. IBM is in possession of the foregoing trade secrets knowing they are subject to an obligation to maintain their secrecy. At all relevant times, IBM was aware that it had an obligation under the ACA to refrain from disclosing GF-Controlled Trade Secrets to third parties.

173. IBM has breached or induced a breach of a duty under the ACA to maintain the secrecy of Specific Results and Foreground IP by publicly disclosing and/or disclosing to third parties, including Intel and Rapidus, GF-Controlled Trade Secrets.

174. IBM misappropriated GF-Controlled Trade Secrets by disclosing them to one or more third parties, and using them for purposes other than those authorized by the ACA.

175. IBM's actions, as set forth herein, constitute "misappropriation" within the meaning of 18 U.S.C. § 1839(5).

176. IBM is improperly disclosing GF's trade secret and confidential information to compete with and/or otherwise harm GF. As alleged herein, IBM committed numerous acts in furtherance of its misappropriation in the United States and in this District, including misappropriating trade secrets that it disclosed with knowledge and intent to harm GF in this District.

177. IBM's misappropriation has proximately caused damage to GF, including but not limited to, loss of profits, goodwill, competitive advantage, and business opportunities.

178. IBM has been unjustly enriched as a further proximate result of its misappropriation of GF's trade secret and confidential information.

179. IBM's actions in misappropriating GF's trade secret and confidential information was willful, fraudulent, malicious, and was done with the intent to injure and oppress GF and improve IBM's own economic opportunities, thereby justifying an award of punitive damages

against IBM pursuant to 18 U.S.C. § 1836(b)(3)(C) and attorneys' fees pursuant to 18 U.S.C. § 1836(b)(3)(D).

180. GF is also entitled to injunctive relief to protect its confidential information and trade secrets by (1) enjoining IBM from any disclosure (and licensing activity) to Intel, Rapidus, or any third party of GF-Controlled Trade Secrets and any technology containing or based on GF-Controlled Trade Secrets; (2) enjoining IBM from altering or deleting GF-Controlled Trade Secrets; (3) preventing IBM employees from further disclosures of GF-Controlled Trade Secrets; and (4) requiring IBM to inform Intel, Rapidus, and any other third party that received GF-Controlled Trade Secrets from IBM that the information was improperly disclosed and should no longer be used or further disclosed.

SECOND CAUSE OF ACTION

Breach by IBM of the Albany Cooperation Agreement

181. GF re-alleges and incorporates by reference the allegations in paragraphs 1 through 180 as though fully set forth herein.

182. Consistent with the representations and warranties that IBM and GF made to each other at the time of entering into the ACA, the ACA constitutes a valid, binding agreement between GF and IBM.

183. The ACA has not been terminated by either party. The ACA has been in effect since its effective date and remains in effect.

184. IBM granted GF exclusive licenses under the ACA to disclose and sublicense certain Specific Results and Foreground IP. In so doing, IBM agreed among other things not to disclose such Specific Results or Foreground IP to any third party, and not to sublicense or purport to sublicense such Specific Results and Foreground IP to any third party.

185. On information and belief, IBM breached its obligations not to disclose Specific Results and Foreground IP to any third party by disclosing such results and IP to Intel, Rapidus, and the public.

186. On information and belief, IBM breached its obligations not to license Specific Results and Foreground IP by licensing such results and IP to Intel, Rapidus, and the public.

187. IBM's wrongful disclosure and/or license of Foreground IP in violation of the exclusive license grants to GF under the ACA is also a breach of obligations of confidentiality.

188. By disclosing Foreground IP to Intel, Rapidus, and/or the public, IBM also breached the Confidentiality provision of the ACA, as such IP constitutes Confidential Information as defined in such provision.

189. As a direct and proximate result of IBM's breaches of the ACA, GF has been damaged in an amount to be proven at trial.

190. IBM's failure to abide by the provisions of the ACA has caused irreparable damage to GF, and thus GF is entitled to injunctive relief to prevent breaches of the ACA and to enforce specifically the terms and provisions of the ACA, including without limitation GF's exclusive right to license and disclose GF IP, and confidentiality obligations.

Breach by IBM of the Master Transaction Agreement

191. GF re-alleges and incorporates by reference the allegations in paragraphs 1 through 190 as though fully set forth herein.

192. Consistent with the representation and warranty that IBM made at the time of entering into the Master Transaction Agreement between GF and IBM dated Oct. 18, 2014 (the "MTA"), the MTA constitutes a legal, valid, and binding obligation of IBM.

193. The MTA has not been terminated by either party. The MTA has been in effect since its effective date and remains in effect as to the confidentiality and indemnification provisions.

194. IBM agreed to maintain the confidentiality of Confidential Information per the terms of Section 7.6(b) of the MTA for a period of ten years after the date of disclosure to a party. Confidential Information under the MTA is broadly defined to include many relevant categories of information such as information used or held for use in the operation of the semiconductor business that GF acquired from IBM, Transferred Technology, Trade Secrets constituting Transferred Intellectual Property, and other specialized information or proprietary matters.

195. On information and belief, IBM breached such confidentiality obligations by disclosures it made to Intel, Rapidus, and the public.

196. As a direct and proximate result of IBM's breaches of the MTA, GF has been damaged in an amount to be proven at trial.

197. IBM's failure to abide by such confidentiality obligations has caused irreparable damage to GF, and thus GF is entitled to injunctive relief to prevent further breaches of the confidentiality provisions of the MTA and to enforce specifically such provisions, as contemplated by Section 12.5 of the MTA.

198. IBM is required by Section 10.2(a) of the MTA to indemnify and hold harmless GF and to pay to GF "the amount of any and all losses, liabilities, claims, obligations, deficiencies, demands, judgments, damages, interest, fines, penalties, suits, actions, causes of action, assessments, awards, costs and expenses (including court costs and reasonable fees and expenses of counsel), whether or not involving a third party claim . . . based upon, attributable to, resulting

from or arising out of any of . . . the breach of any covenant or other agreement on the part of any Seller Party under this Agreement.” Such losses, liabilities, fees and expenses of counsel, and other amounts are referred to in the Prayer for Relief below as the “MTA Damages.”

JURY DEMAND

199. GF demands a trial by jury for all issues so triable.

PRAYER FOR RELIEF

WHEREFORE, GF respectfully requests that the Court enter judgment against IBM and prays for an award as follows:

A. Granting an injunction preliminarily and permanently enjoining and restraining IBM and its directors, officers, employees, agents, and all other persons from:

- i) disclosing and licensing to Intel, Rapidus, or any third party GF-Controlled Trade Secrets and any technology containing or based on GF-Controlled Trade Secrets;
- ii) encouraging, assisting, or otherwise providing support, services, or advice to any third-party, including but not limited to Intel and Rapidus, in a manner which permits such third-party to utilize and rely upon the GF-Controlled Trade Secrets;
- iii) unlawfully soliciting, inducing, encouraging or facilitating the hiring of any GF employee who is in possession of GF’s confidential and proprietary information;
- iv) and other injunctive relief as is proper;

B. Granting an order requiring IBM to:

- i) restrict any IBM employees working jointly with third parties from access to GF-Controlled Trade Secrets, deleting any and all copies of GF-Controlled Trade Secrets outside of a database with such restrictions;
- ii) instruct all IBM employees who have or have had access to the GF-Controlled Trade Secrets that it may not be disclosed publicly or to third parties;
- iii) provide an accounting of those to whom it has disclosed GF-Controlled Trade Secrets; and
- iv) inform Intel, Rapidus, and any other third party to which GF-Controlled Trade Secrets has been disclosed by IBM, that the GF-Controlled Trade Secrets was improperly disclosed, should no longer be used or further disclosed, and should be returned or destroyed;
- v) provide a detailed accounting to GF of such return or destruction; and
- v) other equitable relief as is proper;

C. Awarding compensatory damages, in favor of GF and against IBM in an amount to be proven at trial;

D. Awarding general, special, actual and/or statutory damages, in favor of GF and against IBM in an amount to be proven at trial;

E. Awarding punitive and exemplary damages, in favor of GF and against IBM in an amount to be proven at trial;

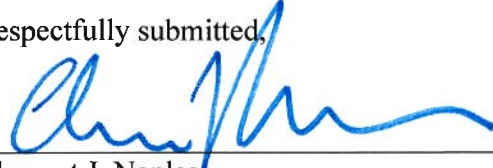
F. Awarding GF pre-judgment and post-judgment interest, attorneys' fees and costs, and other expenses incurred in this action;

G. Awarding GF the MTA Damages;

H. For any such other and further relief as the Court may deem just and proper.

Dated: April 19, 2023

Respectfully submitted,



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